

***Pengaruh Ekspor, Impor, Cadangan Devisa, Suku Bunga Bank Sentral dan Tingkat Inflasi Nilai Tukar IDR terhadap USD dari Januari 2019 hingga Desember 2021, dibandingkan dengan Studi dari Januari 2011 hingga Desember 2013 per Kasus Dari Indonesia***

***The Influence of Export, Import, Foreign Reserve Currencies, Central Bank Rate of Interest and Inflation Rate on IDR Exchange Rate to USD from January 2019 to December 2021, Compare to Study from January 2011 to December 2013 a Case from Indonesia.***

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***Abstract***

*The aim of this research is to study the influence of independent variables to the fluctuation of IDR exchange rate to USD. Those independent variables are export, import, foreign reserve currencies, Central Bank rate of interest and inflation rate. The population is Indonesia's economics and the sample is data for three years. Data was analyzed by using multiple regression, the sources of data are from Central Bank (Bank Inonesia) and Central Bureau of Statistics Indonesia. Research objectives are to determine the influence of export, import, foreign reserve currencies, Central Bank rate of interest and inflation rate. The result of this research shows that import make the IDR/USD exchange rate depreciate .BI Rate, foreign reserve currencies significantly influence to the rate of exchange make the Rupiah appreciate. Export and Inflation rate does not influence the IDR/USD exchange rate, because inflation rate in Indonesia is creeping inflation. Compare to the previous study (2014) independent variables which are influence to exchange rate are export, import, reserve, rate of interest.*

***Keywords:*** *rate of exchange of IDR to USD, export, import, foreign reserve currencies, inflation and Central Bank of Indonesia's rate*

***Abstrak***

Tujuan dari penelitian ini adalah untuk mempelajari pengaruh variabel independen terhadap fluktuasi nilai tukar IDR terhadap USD. Variabel independen tersebut adalah ekspor, impor, cadangan devisa, suku bunga Bank Sentral (BI Rate) dan tingkat inflasi. Data tersebut dianalisis dengan menggunakan regresi linier berganda, sumber data berasal dari Bank Sentral (Bank Indonesia) dan Badan Pusat Statistik Indonesia. Ekspor berarti masuknya USD ke Indonesia sementara impor mengeluarkan USD. Cadangan Devisa terdiri dari mata uang asing (USD, Euro, Yen), emas moneter dan lainnya digunakan sebagai pembiayaan impor. BI Rate ditentukan oleh bank sentral sebagai bunga acuan bagi para bankir di Indonesia. Tingkat inflasi adalah proses bahwa harga barang terus meningkat karena berbagai faktor sebagai mekanisme pasar. Hasil penelitian ini menunjukkan bahwa impor membuat nilai tukar IDR/USD terdepresiasi. BI Rate dan cadangan devisa berpengaruh signifikan terhadap nilai tukar membuat Rupiah terapresiasi. Tingkat ekspor dan inflasi tidak mempengaruhi nilai tukar IDR/USD, karena tingkat inflasi di Indonesia termasuk "*creeping inflation*"

**Kata kunci:** nilai tukar IDR to USD, ekspor, impor, cadangan devisa, BI Rate dan inflasi

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## 1. INTRODUCTION

Rupiah is Indonesia's currency, in abbreviation by IDR. In international trade USD is the global currency. On our previous study, between January 2011 to December 2013 (Sunardiyaningsih, S.P. and Mia Laksmiwati, 2014)[11] exchange rate of IDR/USD in a range of IDR 8600 - 11800. Recent study, between January 2019 - December 2021 shows a range between IDR 13900 - 14300. Is Indonesia getting worse or better? Since Indonesia exist, study about exchange rate of IDR/USD is something attractive, because we can learn history about Indonesia's economy from the previous years, recent and the coming years.

Given the importance of the determination of foreign exchange rates in international trade and business results in a variety of concepts related to foreign exchange rates had been developed in an effort to determine the factors that affect foreign exchange rates. It is also one of the indicators that affect the money market and the stock market, since the weakening of the IDR against foreign currencies; especially USD; will have a negative effect on the economy and capital markets. There are several macro factors that affect trade, they are export, import, inflation rates, interest rates set by central banks and foreign exchange reserves.

Export is selling goods abroad by using the payment system. The quality, quantity and other terms of sale that are approved by the exporters and importers. Import is the process of purchasing goods or services from a foreign country to another. Imported goods generally require the intervention of the customs in the country of the sender or recipient. Exports and imports are an important part of international trade. Foreign exchange currencies are all objects that can be used for payment transactions with overseas that are widely accepted and recognized by the international community. Foreign exchange currency that is usually used today is the U.S. dollar (USD). BI rate is also one of the variables that can affect the time deposit. If the time deposit rate is low, investors will be more interested in buying USD because USD is considered as a strong currency. If interest on time deposit is high, investors will be more interested to save in the form of time deposit because it is more profitable. Inflation is defined as rising prices in general and is continuous. The increase in the price of just one or two items cannot be called inflation unless the rise in inflation was widespread (or result in price increases) on other goods. The opposite of inflation is called deflation (<http://www.bi.go.id>). Given the importance of the determination of foreign exchange rates in international trade and business results in a variety of concepts related to foreign exchange rates had been developed in an effort to determine the factors that affect foreign exchange rates. Based on the above description then this research is conducted with the title:

**“THE INFLUENCE OF EXPORT, IMPORT, FOREIGN RESERVE CURRENCIES, CENTRAL BANK RATE OF INTEREST AND INFLATION RATE ON IDR EXCHANGE RATE TO USD FROM JANUARY 2019 TO DECEMBER 2021, COMPARE TO STUDY FROM JANUARY 2011 TO DECEMBER 2013 A CASE FROM INDONESIA”**

## 2. PROBLEMS' FORMULATION

Based on the background of the problem described in this study are as follows, how is the influence of;

- a) Export to exchange rate IDR/USD,
- b) Import to exchange rate IDR/USD,
- c) Foreign reserve currencies to the exchange rate IDR/USD,
- d) Central Bank of Indonesia rate (BI rate) effect on the exchange rate IDR/USD,

- e) Inflation rate against IDR/USD exchange rate, and
- f) Is there differences result from the study on 2019 - 2021 compare to 2011 - 2013
- g) Is Indonesia getting worse or better.

### **3. LITERATURE REVIEW**

#### **3.1. Definition of Foreign Exchange**

According Sadono Sukirno (2013) [1], foreign exchange rate can also be defined as the amount of domestic currency needed which is the number of Rupiah (IDR) to acquire one unit of foreign currency.

Currency exchange rate can be likened as the price of the currency. Just like the price of the product, the price of a currency is determined by supply and demand. Exchange is formed when the quantity and price of each currency requested equal to the amount and currency prices offered. Foreign exchange is an exchange between two different currencies, namely the ratio between the price or value of the two currencies.

#### **3.2. Currency Exchange System**

According Sadono Sukirno [1] the exchange rate is a key for a country to trade with the outsider. Exchange system in domestic and overseas inevitably has to be tied to the exchange rate. Exchange rate system itself consists of several types, namely fixed exchange rate, free-floating rate, and managed floating rate.

- a) Fixed Exchange Rate, is the exchange rate system in which the highest monetary authority of a country (the Central Bank) set a domestic exchange rate against other countries that are set at a certain level regardless of the activity of supply and demand in the money market,
- b) Managed Floating Exchange Rate. Setting this rate is not entirely the case of money market activity, there is still government intervention through monetary and fiscal economic tools available,
- c) Free Floating Rate, is an economic system that is intended for a country whose economic system has been developed.

#### **3.3. Driving Factors of IDR Exchange Rate, Sukirno [1]**

Many factors determine the exchange rate, and they are related to trade relations between the two countries. The exchange rate is relative, and expressed as a ratio of the currencies of two countries. These factors are also in no particular order, as many aspects of the economy, the relative importance of these factors remains a much debatable subject. The factors driving the exchange rate of IDR are:

- a) Differentiation of inflation rate, a state that is consistent with low inflation will exhibit a rising currency value, along with an increase in purchasing power relative to other currencies.
- b) Differentiation of Interest Rates, inflation rates and currency values have a very high correlation. By adjusting the interest rate, the central bank tried to regulate the effects of inflation and currency values, and interest rate changes will impact on inflation and currency values.

#### **3.4. Definition of Export**

Export is the process of transport of goods or commodities from one country to another. This process is often used by companies with small to medium scale businesses as a key strategy to compete on an international level. Export strategy is used as a lower risk, lower capital and easier when compared to other strategies, Sukirno [1].

### **3.5. Definition of Import**

Import is the process of transport of goods or commodities from one country to another country legally, generally in the trade process. The import process is generally activities of buying goods or commodities from other countries into the country. Imported goods are generally requires the intervention of the customs in the country of the sender or recipient. Imports are important part of international trade. The opposite is export, Sukirno [1].

### **3.6. Definition of Foreign Exchange Reserves Currencies**

Foreign exchange is all objects that can be used for overseas payments transactions, widely accepted and recognized by the international community, which is usually U.S. dollars (USD). Foreign exchange reserves are the foreign currency deposited by central banks and monetary authorities. These savings are central bank assets stored in reserved currency, such as, US Dollar, Euro, or Yen. These saving are used to guarantee obligations, namely the local currency issued, and the various bank reserves deposited at the central bank by the government or financial institution.

Foreign exchange functions, among others, as a means of payment of foreign debt, the transaction means of payment for goods and services abroad (trade, export, import) and as a source of state revenue, Sukirno [1].

### **3.7. The Meaning of BI Rate**

As the monetary authority, Bank Indonesia establishes and conducts monetary policy to achieve and maintain Rupiah (IDR) stability. Policy direction based on the inflation target to be achieved by taking into account various other macro economic targets, both in the short, medium and long term, monetary policy implementation is done by setting the BI Rate, Iskandar, Syamsu (2013) [2].

BI Rate is the interest rate policies that reflect the attitude or stance of monetary policy is set by Bank Indonesia and announced to the public. BI Rate is the interest rate to be paid by the bank or the customer as remuneration for the transactions between the bank and the customer.

### **3.8. 3.8 The Meaning of Inflation**

Inflation rate is a state of constantly rising prices in general, or a state of constantly falling value of money due to the increased amount of money in circulation is not offset by an increase in inventory. Inflation is a process of rising prices in general and continuously associated with the market mechanism that can be caused by various factors. These factors are: increased private consumption, excess liquidity in the market that triggered the consumption or even speculation, and also disruptions of distribution of goods. Inflation rate is an indicator involved in the rate of exchange. It occurs if the price increase continuously and influence exchange rate, Sukirno [1].

According to Putong, Iskandar (2010) [3] type of inflation by its nature is divided into 4 main categories:

1. Creeping inflation, the amount of inflation is less than 10 % per year,
2. The galloping inflation, is the amount of inflation between 10%-30 % per year,
3. High inflation, is inflation between 30%-100 % per year,
4. Very high inflation (hyper inflation), inflation is characterized by drastic price increase of up to 4 digits (above 100 %).

## **4. RESEARCH HYPOTHESES**

The hypotheses is the conclusion or temporary answer of the research results, Sarwono, Jonathan (2013) [4]. According to Verhoven (20150)[13] hypotheses are statements or expectations about a population parameter (characteristic) that can be tested statistically. Testing the hypotheses can be based by using two things: the level of significance or probability ( $\alpha$ ) and the level of trust or confidence level. The level of significance is the probability of making mistakes is a mistake to reject the hypothesis when the hypothesis is true.

#### Hypotheses

H1 : Allegedly there was thought to influence the value of exports to exchange rate IDR/USD.

H2 : Allegedly there was thought to influence on the value of import to exchange rate IDR/USD.

H3 : Allegedly there was thought to influence the foreign exchange reserves to exchange rate IDR/USD.

H4 : Allegedly there was influence on the BI Rate to exchange rate IDR/USD.

H5 : Allegedly there was influence on the inflation rate to exchange rate IDR/USD,

H6 : Allegedly there was differences result from the study on 2019 - 2021 compare to 2011 - 2013

#### 4.1. Research Objectives

In accordance with the formulation of the problem that has presented, the following research objectives are as follows, to determine the influence of:

- a) Export to Exchange Rate IDR/USD.
- b) Import to Exchange Rate IDR/USD.
- c) Foreign reserve currencies to exchange rate IDR/USD.
- d) BI Rate to Exchange Rate IDR/USD.
- e) Inflation rate to the Exchange Rate IDR/USD.
- f) There was differences result from the study on 2019 - 2021 compare to 2011 - 2013

#### 4.2. The Results of Previous Studies

- a) Tri Wibowo and Hidayat Amir, 2005 [5] , " Factors Affecting the Exchange Rate ".

Between the years 2000 - 2005 IDR Currency rate to USD fluctuated between IDR 7,425 – IDR 11,675 with average on IDR 9,153 because of :

- 1) Domestic factors

- a) High inflation,
- b) The negative impact of high oil prices on the trade balance of oil and gas,
- c) IDR was undervalued.

- 2) Foreign factors

- a) USD strengthened against all currencies,
- b) USA economy improves.

- b) Paris Dauda, 2011 [6], " Analysis of The Effect of Fundamentals Economic Against The Fluctuation of Exchange Rate IDR/USD between 2005 -2009 " :

- 1) BI Rate between 8.75 - 12.75 %, BI Rate effect on the exchange rate of IDR/USD,
- 2) Rate of inflation between 9.175% – 17.03%, classified as the galloping inflation. Rate of inflation affect the exchange rate of IDR/USD.

- c) Oriavwote, Victor E, MSc; Eshenake, Samuel J, MSc, 2012 [7] ” Real Exchange Rate and Inflation: An Empirical Assessment of the Nigerian Experience”

Using data covering the period between 1970 and 2010, An indication that the real exchange rate in Nigeria has been susceptible to fluctuations in the rate of inflation. For an open economy like Nigeria, inflation comes from both domestic factors (internal pressures)

and over sea's factors (external pressures). The external factors results from increase in the world prices of commodities or fluctuation in the real exchange rate.

- d) Dickson, Oyovwi O., 2012 [8] " Exchange Rate Volatility and Economic Growth In Nigeria"

This study base on the annual data from 1970 to 2009, focuses on exchange rate volatility and economic growth. Economic growth is measured in terms of persistent growth in national income which translates to increase in the amount of goods and services produced in an economy. Production of goods and services involve exports and imports which in turn involves transactions in foreign exchange.

Nigeria is a net oil exporter, 90% of its export depend on crude oil. The Nigerian foreign exchange market is peculiar because foreign exchange earnings depends about 90% on the world price of crude oil. The consequence is that the volatility of the world oil prices has direct impact on the Nigerian foreign exchange earnings (Olusanya and Rasheed, 2008). [9]

- e) Kai-Li, Wang; Barrett, Christopher B., 2007, [10], "Estimating the Effects of Exchange Rate Volatility on Export Volumes"

Agricultural trade volumes may be far more responsive to exchange rate changes than is trade in manufactured goods. This may also translate into greater trade volume sensitivity to exchange rate risk in agriculture compared to other sectors of the economy. Agriculture appears far more responsive to both expected exchange rates and to expected volatility in the exchange rate, and less responsive to importer incomes, than do other sectors in Taiwan's economy.

- f) Sunardiyaningsih,S.P.; Laksmiwati, Mia , 2014, [11]The Influence Of Export, Import, Foreign Reserve Currencies, Central Bank Rate Of Interest And Inflation Rate On IDR Exchange Rate To USD From January 2011 To December 2013, a Case From Indonesia"

Variables that are influence the exchange rate of IDR/USD consist of export, import, foreign reserve currency, Central Bank Rate Of Interest and inflation rate.

## **5. METHODS**

### **5.1 Data Collection Method**

The data used are secondary data from Central Bank of Indonesia and Indonesian Central Bureau of Statistics.

### **5.2 Operation of variables**

Independent variables are variables that affect or are the cause of changes in the dependent variable. Independent variables (X) which were studied consist of Export (X1), Import (X2), foreign reserve currencies (X3), Central Bank of Indonesia Rate or BI Rate (X4) and the Inflation rate (X5). Dependent Variable or Y is also called, is a variable that is affected by the independent variable. Y in this study in the form of an Exchange Rate IDR/USD from January 2019 - December 2021 . The exchange rate is in the form of middle rate. Middle rate is the average value between the buying with the selling rate.

### **5.3 Data Analysis Methods**

According to Sarwono (2013) [4] , by using Multiple Regression Linear Method as follows:

$$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + e$$

**Description:**

Y = Exchange Rate IDR/USD

$\alpha$  =Constant.

$\beta_1, \beta_2, \beta_3, \beta_4, \beta_5$  = regression coefficient of independent variables

X1 = export

X2 = import

X3 = foreign reserve currencies

X4 = Central Bank of Indonesia Rate (BI Rate)

X5 = Inflation rate

e = Error term

Before the linear regression analysis performed, the natural log transformation of data are done because the data have different units , i.e. IDR for Exchange Rate, USD for Export, Import and Foreign Exchange Reserves, percentage for BI Rate and Inflation Rate. Furthermore, the classical assumption test consists of testing: normality, multicollinearity, heteroskedasticity, and auto correlation. If it is fulfilled, the model analyzes is worthy to be used (Sarwono , 2013) [4]. Hypotheses testing to determine the independent variables that affect the dependent variable.

## 6. DATA

From the results of data collection from Bank Indonesia and the Indonesian Central Bureau of Statistics it is obtained the following results.

Table 1. Export, import, foreign reserve currencies, BI Rate and inflation rate to exchange rate IDR/USD from January 2019 to December 2021

N O	Year	Month	X1_Export	X2_Import	X3_Foreign_RC	X4_BI_ RATE	X5_In fl_Rat e	Y_IDR/USD
1	2019	January	14028086397	15005191440	120075000000	6	2,82	13968
2		February	12788557131	12465073944	123274000000	6	2,57	13992
3		March	14447789013	13746621857	124539000000	6	2,48	14173
4		April	13068068332	15399185930	124294000000	6	2,83	14144
5		May	14751890717	14606659275	120347000000	6	3,32	14345
6		June	11763353136	11495388062	123823000000	6	3,28	14070
7		July	15238418109	15518475622	125900000000	5,75	3,32	13964
8		August	14261962733	14169350761	126441000000	5,50	3,49	14166
9		September	14080108446	14263448876	124332000000	5,25	3,39	14103
10		October	14881456853	14759081430	126694000000	5	3,13	13973
11		November	13944486956	15340475284	126633000000	5	3	14031
12		December	14428818305	14506784516	129183000000	5	2,72	13875
13	2020	January	13636412653	14268720284	131704000000	5	2,68	13652
14		February	14042089243	11548100132	130444000000	4,75	2,98	14162
15		March	14031292077	13352176374	120969000000	4,5	2,96	16254
16		April	12159824545	12535233221	127880000000	4,5	2,67	15081
17		May	10452625424	8438627383	130544000000	4,5	2,19	14659
18		June	12006813612	10760317981	131718000000	4.25	1,96	14230
19		July	13689902558	10464299676	135077000000	4.00	1,54	14579
20		August	13055281120	10742407847	137041000000	4.00	1,2	14628
21		September	13956176571	11570104770	135153000000	4.00	1,42	14483
22		October	14363443251	10786016684	133663000000	4.00	1,44	14616

23		November	15258422043	12664414194	133556000000	3.75	1,59	14057
24		December	16539555059	14438376084	135897000000	3.75	1,44	14175
25	2021	January	15293665753	13329901020	138005000000	3.75	1,55	13903
26		February	15256165841	13264974634	137095000000	3.50	1,38	14229
27		March	18354446838	16787511490	138799000000	3.50	1,37	14572
28		April	18490725511	16204338764	136398000000	3.50	1,42	14453
29		May	16932924239	14234815276	137093000000	3.50	1,68	14292
30		June	18542418031	17218457483	137093000000	3.50	1,33	14542
31		July	19385795116	15263122650	137343000000	3.50	1,52	14462
32		August	21427076856	16678886850	146870000000	3.50	1,59	14306
33		September	20605585917	16234148586	146870000000	3.50	1,6	14321
34		October	22029688070	16293616090	146870000000	3.50	1,66	14171
35		November	22844428637	19328188076	145858000000	3.50	1,75	14320
36		December	22359545389	21352018156	144905000000	3.50	1,87	14278

Source: Central Bank of Indonesia (Bank Indonesia), 2022 and the Central Bureau of Statistics Indonesia (2022)  
Data lama 2011 - 2013 sudah dihapus

This research result according to Sunardiyaningsih, Siti Purnami and Anindya Putri Pradipta (2022).

Once the data is processed, the resulting multiple regression is as follows :

$$\text{LNY\_EXCHANGE\_RATE} = 24,538 + 0.049 \text{ LNX2\_IMPORT} - 0.620 \text{ LNX3\_RESERVE} - 0.157 \text{ LNX4\_BI\_RATE}$$

### 6.1. Import

Import means spending some money out of the country, this means spending USD from Indonesia to finance expenditures for goods. From the results of multiple regression analysis shows that imports have a positive coefficient, suggesting that if the import increases, IDR exchange rate IDR is depreciated against the USD, and vice versa. Between the years 2019 - 2021 import fluctuated but tend to be stable. In other word IDR is depreciated to USD.

### 6.2. Foreign Reserve Currencies to IDR / USD

Foreign Reserve Currencies used to finance imports, payment of maturing debt and other purposes in a country. If the Foreign Reserve Currencies number increases, the exchange rate of IDR / USD will be stronger or IDR is appreciated against the USD, and vice versa. This is due to the greater number of USD owned by Indonesia. The more Indonesia owns USD, IDR is more appreciated.

### 6.3. BI Rate compared to IDR/USD Exchange Rate

Mathematical analysis shows BI rate coefficient is negative. Between January 2019 to December 2021, IDR exchange rate to USD was around 14000, except on March and April 2020. The BI Rate was relatively stable at 6 %, then decreased to 3.50 %. It was intended that the Central Bank be able to influence the exchange rate of IDR/USD, so that people are interested in saving money in the form of time deposits.

### 6.4. Inflation Rate

Inflation rate (year on year) in Indonesia is between 3% - 1.6 %. Inflation is classified as creeping inflation. Relatively low inflation rate causes the inflation rate does not affect the exchange rate of IDR/USD. When the inflation rate is high, people tend to save their money



in hard currency, for example in USD. However, because in Indonesia inflation rate is classified as creeping inflation, it does not affect the exchange rate of IDR/USD.

### 6.5. Hypothesis Testing

From the results of hypotheses testing, variables that affect the exchange rate of IDR/USD between the years 2019-2021 are:

- 1) Import,
- 2) Foreign Reserve Currencies and
- 3) Central Bank rate (BI Rate).

### 6.6. Deference of the study

- 1) Exchange Rate.

Table 2. Data Exchange Rate 2019 - 2021 compare to 2011 - 2013

Year	Month	IDR/USD_2019-2021	IDR/USD _2011 -2013
2019	JAN	13968	9037.38
	FEB	13992	8912.56
	MAR	14173	8761.48
	APR	14144	8651.30
	MAY	14345	8555.80
	JUN	14070	8564.00
	JUL	13964	8533.33
	AUG	14166	8532.00
	SEP	14103	8765.50
	OCT	13973	8895.24
	NOV	14031	9011.24
	DEC	13875	9088.48
2020	JAN	13652	9108.35
	FEB	14162	9025.30
	MAR	16254	9165.33
	APR	15081	9175.50
	MAY	14659	9290.24
	JUN	14230	9451.14
	JUL	14579	9456.59
	AUG	14628	9499.84
	SEP	14483	9566.35
	OCT	14616	9597.14
	NOV	14057	9627.95
	DEC	14175	9645.89
2021	JAN	13903	9684.70
	FEB	14229	9686.39
	MAR	14572	9711.12
	APR	14453	9724.10
	MAY	14292	9760.91
	JUN	14542	9881.53

	JUL	14462	10077.68
	AUG	14306	10572.50
	SEP	14321	11346.24
	OCT	14171	11366.91
	NOV	14320	11813.00
	DEC	14278	11830.00

Source : Bank Indonesia 2022.

Figure 1. Data Exchange Rate 2019 - 2021 compare to 2011 - 2013

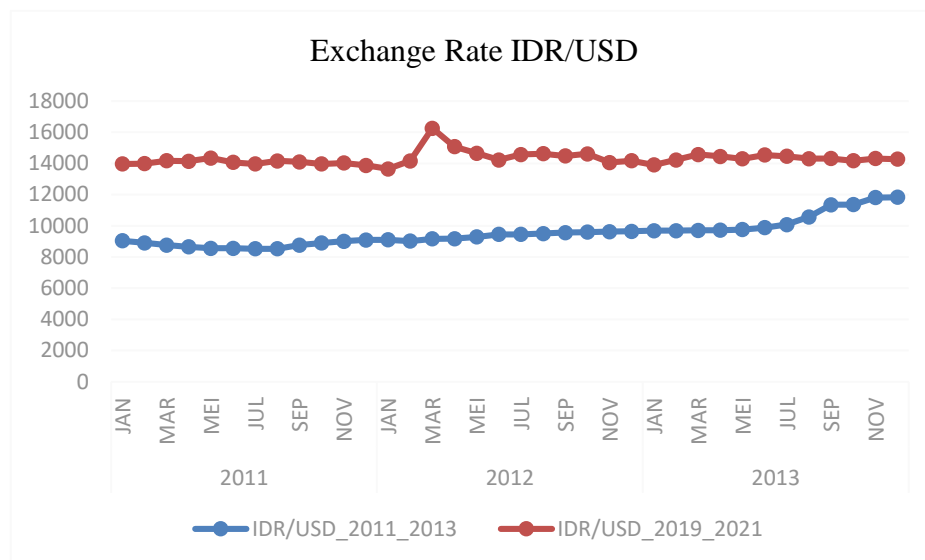


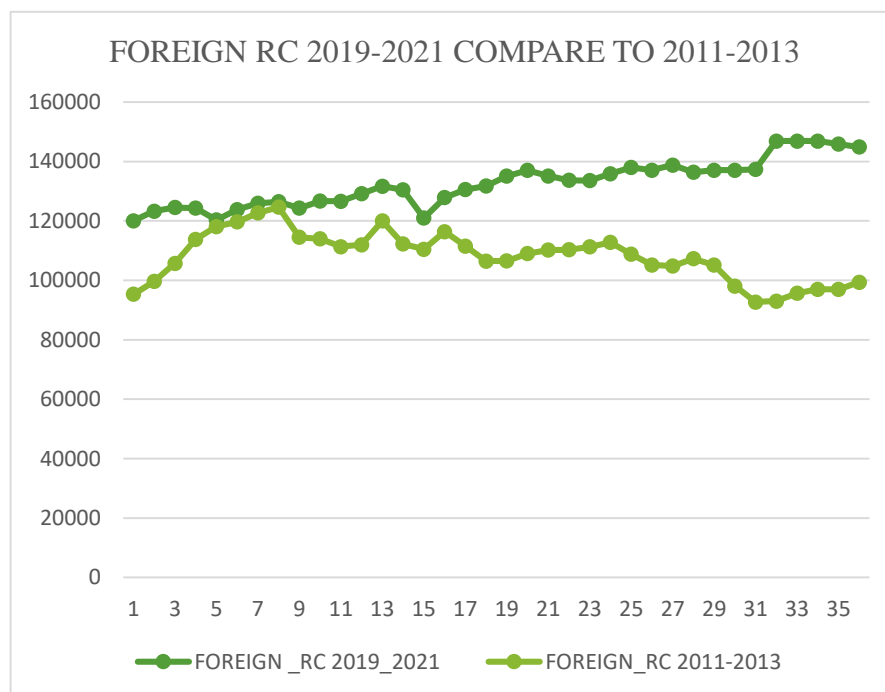
Table 3. Reserve of Foreign Currency 2019- 2021 and 2011-2013

No.	YEAR	MONTH	FOREIGN_RC 2019_2021	FOREIGN_RC 2011-2013
1	2019	January	120075	95332
2		February	123274	99619
3		March	124539	105709
4		April	124294	113814
5		May	120347	118109
6		June	123823	119655
7		July	125900	122671
8		August	126441	124638
9		September	124332	114502
10		October	126694	113962
11		November	126633	111316
12		December	129183	111990
13	2020	January	131704	119990
14		February	130444	112220
15		March	120969	110493
16		April	127880	116413
17		May	130544	111528

18		June	131718	106502
19		July	135077	106559
20		August	137041	108990
21		September	135153	110172
22		October	133663	110297
23		November	133556	111285
24		December	135897	112781
25	2021	January	138005	108780
26		February	137095	105183
27		March	138799	104800
28		April	136398	107269
29		May	137093	105149
30		June	137093	98095
31		July	137343	92671
32		August	146870	92997
33		September	146870	95675
34		October	146870	96996
35		November	145858	96960
36		December	144905	99387

Source : Bank Indonesia, 2022

Figure 2. Foreign Reserve Currency 2019 - 2021 compare to 2011 - 2013



## 7. SUMARRY

Summary is an extended abstract of the research, Verhoeven (2015) [12]

Table 4. Differences of the research result

Periods 2019 - 2021	Periods 2011 - 2013
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1. Multiple regression; $LN\text{Y\_EXCHANGE\_RATE} = 24,538 + 0.049 LN\text{X2\_IMPORT} - 0.620 LN\text{X3\_RESERVE} - 0.157 LN\text{X4\_BI\_RATE}$	1. Multiple regression ; $LN\text{Y\_EXCHANGE\_RATE} = 19.720 - 0.496 LN\text{X1\_EXPORT} + 0.548 LN\text{X2\_IMPORT} - 0.497 LN\text{X3\_RESERVE} + 0.470 LN\text{X4\_BI\_RATE}$
2. Variables that influence to Exchange Rate are; Import, foreign reserve currency and BI Rate	2. Variables that influence to Exchange Rate are; Export, import, foreign reserve currency and BI Rate
3. Variables that not influence to Exchange Rate are; Export and Inflation rate	3. Variables that not influence to Exchange Rate is; Inflation rate
4. Exchange rate IDR/USD; in a range between IDR 14000 - IDR 14500	1. Exchange rate IDR/USD; in a range between IDR 8500 - IDR 11800
5. Indonesia has Foreign Reserve Currency between 120075 billions - 144905 billions USD	5. Indonesia has Foreign Reserve Currency between 99532 billions - 99387 billions USD

## 8. CONCLUSIONS

Conclusion is the summary of the main findings and answer to the central questions, Verhoeven (2015) [12].

Based on the results of the study from January 2019 to December 2021 it can be concluded as follows:

- Imports affect the exchange rate of IDR/USD. When imports increase, the exchange rate of IDR/USD weakens. In other word IDR is depreciated to USD
- Foreign Reserve Currencies affect the exchange rate IDR/USD. When Foreign Reserve Currencies increases, the exchange rate of IDR/USD will be stronger. In other word IDR is appreciated to USD.
- BI rate effect on the exchange rate of IDR/USD. BI rate is one instrument that is used by the Central Bank of Indonesia to control the exchange rate of IDR/USD.
- Indonesia is getting better because the Reserve Currencies between January 2019 - December 2021 bigger compare to January 2011 - December 2013.

Based on the results of the study from January 2011 to December 2013 it can be concluded as follows:

- Exports affect the exchange rate of IDR/USD. When the exports increase, the exchange rate of IDR/USD will be stronger or in other words IDR is appreciated to USD.
- Imports affect the exchange rate of IDR/USD. When imports increase, the exchange rate of IDR/USD weakens. In other word IDR is depreciated to USD.
- Foreign Reserve Currencies affect the exchange rate IDR/USD. When Foreign Reserve Currencies increases, the exchange rate of IDR/USD will be stronger. In other word IDR is appreciated to USD. If the Foreign Reserve Currencies decline, then the exchange rate IDR/USD will be weakened. In other word IDR is depreciated to USD.
- BI rate effect on the exchange rate of IDR/USD. BI rate is one instrument that is used by the Central Bank of Indonesia to control the exchange rate of IDR/USD.
- Inflation rate does not affect the exchange rate of IDR/USD, because the inflation rate in Indonesia is creeping inflation.

### 8.1. Weakness of this research

- The time used in the study is relatively short, only three years.

- b) Studied only five variables, they are: export, import, Foreign Reserve Currencies, BI rate and inflation rate. Researchers can add other variables that have not been used in this study.

## 8.2. Recommendation

- a) The time used in the study should be longer.
- b) Not only five variables, those are: export, import, Foreign Reserve Currencies, BI rate and inflation rate, researchers can add other variables that have not been used in this study.
- c) Do the research for the coming years for example between 2025 – 2030.

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